Operating System Lab(4ITRC2)

Lab Assignment 1

**1.Introduction(in brief about linux and ubuntu, its versions + some history)**

Linux and Ubuntu:

Linux is a powerful, open-source operating system (OS) based on Unix, known for its stability, security, and flexibility. It is widely used for servers, desktops, and embedded systems.

Versions and History:

Ubuntu was first released in October 2004 by Mark Shuttleworth and the Ubuntu community.

Notable Ubuntu versions include:

Ubuntu 4.10 (Warty Warthog): First official release.

Ubuntu 16.04 LTS (Xenial Xerus): Major LTS with enhanced security.

Ubuntu 20.04 LTS (Focal Fossa): Known for its performance and updated GNOME desktop.

Ubuntu 22.04 LTS (Jammy Jellyfish): The latest LTS with UI improvements.

**2. Features of Ubuntu**

Open Source: Completely free and open-source with strong community support.

User-Friendly Interface: Uses GNOME desktop environment by default, providing an intuitive and customizable UI.

Security: Frequent security updates, built-in firewall, and virus protection.

Software Center: Easy access to thousands of free and proprietary applications.

Long-Term Support (LTS): Ensures stability and long-term security updates.

Compatibility: Supports a wide range of hardware devices and file systems.

Customization: Allows extensive customization of themes, icons, and desktop environment.

Command-Line Interface (CLI): Powerful terminal for administrative tasks and scripting.

Community Support: Active forums and documentation for troubleshooting and learning.

**3. Difference between Ubuntu and Windows OS**

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| **Feature** | **Ubuntu** | **Windows OS** |
| Cost | Free and open-source | Proprietary, requires a license |
| Kernel | Linux Kernel | Windows NT Kernel |
| Security | Less prone to malware and viruses | Frequent target for viruses |
| Customization | Highly customizable | Limited customization options |
| Software Availability | Extensive open-source software | Wide range of proprietary software |
| System Requirements | Runs smoothly on lower specifications | Higher system requirements |
| Command Line | Powerful terminal with advanced tools | Command Prompt and PowerShell |
| File System | Supports multiple file systems like ext4 | Primarily uses NTFS |